

# Evaluation of Post Traumatic Stress Disorder in Individuals Treated with the Diagnosis of COVID-19

## COVID-19 Tanısı ile Tedavi Edilen Bireylerin Travma Sonrası Stres Bozukluğunun Değerlendirilmesi

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### ABSTRACT

The aim of this study is to examine people who are followed up with the diagnosis of COVID-19 in terms of post-traumatic stress disorder.

127 people who were followed up with COVID-19 infection in the last 6 months were included. The Post-traumatic stress disorder Checklist-Civilian Version was applied. The relationship between Post-traumatic stress disorder subscale scores and various variables was analyzed.

The mean scores obtained from the post-traumatic stress disorder scale were significantly higher in women, those who did not have a regular job, not married, lived alone and with chronic diseases. It was found that being a woman increased the risk of post-traumatic stress disorder due to COVID-19 infection by 2.73 times and not being married increased this risk 2.72 times.

Early stage psychological services are needed in all societies to reduce Post-traumatic stress disorder, alleviate individuals' existing stress responses and prevent immunosuppression.

**Keywords:** COVID-19, global pandemic, Post-traumatic stress disorder.

### Introduction

Post-traumatic stress disorder (PTSD) is defined as a serious reaction of individuals to highly stressful events. The incidence of PTSD is increasing due to events such as wars, natural disasters, or serious illnesses. The COVID-19 outbreak (WHO, 2020), which was declared as a global pandemic by the World Health Organization on March 12, 2020, has significantly affected social life in all areas due to the rate of spread and the negative effects of the epidemic (1). This public health problem

### ÖZ

Bu çalışmanın amacı, COVID-19 tanısı ile takip edilen kişileri enfeksiyon sonrası travma sonrası stres bozukluğu açısından incelemektir.

Son 6 ayda COVID-19 enfeksiyonu tanısı ile takip edilen 127 kişi dahil edildi. Travma Sonrası Stres Bozukluğu Kontrol Listesi-Sivil Versiyonu uygulandı. İstatistiksel değerlendirmede travma sonrası stres bozukluğu alt ölçek puanları ile çeşitli değişkenler arasındaki ilişki incelendi.

Travma sonrası stres bozukluğu ölçeğinden alınan puan ortalamaları kadınlarda, düzenli bir işi olmayanlarda, evli olmayanlarda, yalnız yaşayanlarda ve kronik hastalığı olanlarda anlamlı olarak daha yüksekti. Kadın olmanın COVID-19 enfeksiyonuna bağlı travma sonrası stres bozukluğu riskini 2,73 kat, evli olmamanın ise 2,72 kat artırdığı bulundu.

Travma sonrası stres bozukluğunu azaltmak, bireylerin mevcut akut stres tepkilerini hafifletmek, bağışıklığı baskılamayı önlemek için tüm toplumlarda erken dönem psikolojik hizmetlere ihtiyaç duyulmaktadır.

**Anahtar Kelimeler:** COVID-19, pandemi, travma sonrası stres bozukluğu.

not only harmed people's physical health but also had a significant impact on their mental health (2).

It is important to understand the factors associated with individuals' experience of stress and burnout during the COVID-19 pandemic to prevent psychological problems that may occur. Recent studies have reported that people quarantined for COVID-19 experience various psychological problems such as stress, fear, and disappointment (3). Some changes such as masks and social distance caused by COVID-19 in daily life have the potential to increase the levels of stress, anxiety, burnout, fear and disappointment (4). Stressful life situations have significant negative effects on a person's mental health and psychological functioning. It causes psychological problems such as anxiety, mental confusion,

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social deprivation, and depression. In addition, people with COVID-19 infection may need to be examined in terms of post traumatic stress disorder due to the intense stress experienced (5).

The aim of this study is to examine people who are followed up with the diagnosis of COVID-19 in terms of post-traumatic stress disorder after infection.

## **Method**

### **Participants**

1651 people who were followed up with a diagnosis of COVID-19 infection in the last 6 months were included in this study. Participants were reached by phone. Verbal consent was obtained after giving information about the study. Persons who experienced any other trauma in the last 6 months were excluded from the study.

### **Ethics**

Approval was obtained from the Ethics Committee of Çukurova University Faculty of Medicine for this study (Date: 7 August 2020, Meeting number: 102).

### **Measures**

The PTSD Checklist-Civilian Version was applied to all participants during the phone call. The PTSD Checklist-Civilian Version was applied to all participants during the phone call. The severity of PTSD symptoms was measured using a five-point Likert scale. The total score ranges from 17 to 85, with a higher score indicating more severe symptomatologic PTSD. The cut-off score is 38 (6). Answers range from “not at all” [0] to “extremely” [5]. The validity and reliability study of the Turkish version of the scale was performed by Kocabaşoğlu et al. (2005), it has been shown to be a tool that can be used both in PTSD screening and in assessing the severity of PTSD (7).

### **Data Analysis**

In statistical evaluation, the relationship between PTSD subscale scores and various variables was analyzed. The distribution of variables included in the analysis was found to be normal (Kolmogorov-Smirnov test result,  $p$  value > 0.05). Analysis was done by independent samples  $t$  test

and chi-square test. Afterwards, significant results were re-evaluated with regression analysis. A  $p$  value less than 0.05 was considered statistically significant.

## **Results**

1651 people between the ages of 20 and 70 participated in the study. The average age of the participants was 46.56. When we examined the sociodemographic characteristics of the participants, 54.3% were male and 37.0% were unmarried. In addition, 69.3% were high school or university graduates, 41.7% had a regular job and 26.8% had no children. 14.2% of them lived alone at home.

48% of the participants had a chronic illness. During the COVID-19 infection they had, 26.8% were hospitalized. As a result of the scale we applied, we found that 27.6% of the participants had post traumatic stress disorder. The average score they got from the PTSD checklist was 31.33.

The presence of post-traumatic stress disorder was significantly higher in women, those who did not have a regular job, those who were not married, those who lived alone at home, and those with chronic diseases (Table 1).

In addition, the mean scores obtained from the post-traumatic stress disorder scale were significantly higher in women, those who did not have a regular job, those who were not married, those who lived alone, and those with chronic diseases (Table 2).

Variables found significant in the chi-square test were included in the logistic regression analysis. As a result of the analysis, it was found that being a woman increased the risk of post-traumatic stress disorder due to COVID-19 infection by 2.73 times and not being married increased this risk 2.72 times (Table 3).

**Table 1.** Analysis of the presence of post-traumatic stress disorder according to various variables Adana, 2020

Variables		Post traumatic stress disorder		p
		Yes n(%)	No n(%)	
Gender	Male	131 (14.5)	766 (85.5)	<0.001
	Female	325 (43.1)	429 (56.9)	
Education	Middle school and below	169 (33.3)	338 (66.7)	0.332
	High school and above	286 (25.0)	858 (75.0)	
Have a permanent job	Yes	66 (9.4)	623 (90.6)	<0.001
	No	390 (14.3)	572 (52.2)	
Marital status	Married	221 (21.3)	819 (78.8)	0.038
	Not married	235 (38.3)	376 (61.7)	
Have a child	Yes	378 (31.2)	831 (68.8)	0.131
	No	78 (17.6)	364 (82.4)	
Living alone at home	Yes	112 (47.8)	122 (52.1)	0.042*
	No	337 (23.9)	1080 (76.1)	
Have a chronic illness	Yes	326 (41.0)	467 (59.0)	0.001
	No	130 (15.2)	728 (84.8)	
Hospitalization	Yes	168 (38.2)	274 (61.8)	0.103
	No	285 (23.7)	924 (76.3)	

\* Fisher's Exact Test

**Table 2.** Analysis of post-traumatic stress disorder scale scores according to various variables, Adana, 2020

Variables		Post traumatic stress disorder mean score	p*
Gender	Male	28.03	0.003
	Female	35.26	
Have a permanent job	Yes	26.83	0.001
	No	34.55	
Marital status	Married	29.18	0.040
	Not married	35.00	
Living alone at home	Yes	42.83	0.018
	No	29.43	
Have a chronic illness	Yes	34.64	0.010
	No	28.27	
Hospitalization	Yes	34.47	0.121
	No	30.18	

\* t test results

**Table 3.** Multinomial logistic regression analysis results, Adana, 2020

Variables	Sig.	Exp (B)	Lower bound-Upper bound
Gender (Female)	0.047	2.73	0.89-7.84
Marital status (Not married)	0.031	2.72	0.91-6.42

## **Discussion**

As a result of the scale we applied, we found that 27.6% of the participants had post traumatic stress disorder. In a study conducted from Italy, the prevalence of PTSD 8 years after the earthquake was reported to be only 0.5% (8). Additionally, a systematic review has shown that the rate of PTSD decreases after natural disasters, but studies have indicated that adolescents affected by traumatic events are prone to thoughts such as sleep disturbances, nightmares, and separation anxiety (9). Differences in PTSD prevalence after a traumatic event may be due to post-traumatic research methods, culture, type and severity of trauma, time interval measured after trauma, and differences in diagnostic criteria (10).

It has been shown that quarantine in itself can increase psychological stress and worsen mental health. A study conducted in Saudi Arabia showed that the prevalence was 22.63% when the PTSD cut-off score was used (11). In a study conducted in the USA, the prevalence of post-traumatic stress disorder after COVID-19 infection was found to be 31.8% (12). It was found to be 29.5% in Italy (13). These results are similar to the results of our study. However, in a study conducted in China, it is seen that post-traumatic stress disorder is quite low (2.7%) compared to these results (14).

It is known that the measures taken due to COVID-19 cause fear, anxiety and intense stress in people around the world. After this intense stress and fear, the quarantine process of a person with COVID-19 infection may increase the susceptibility to post-traumatic stress disorder. Similarly, the outbreak of Severe Acute Respiratory Syndrome in 2013 was expressed as a serious bio-disaster on individuals (15). In a study conducted during this period, post-traumatic stress disorder was found at a similar level in people who were diagnosed with Severe Acute Respiratory Syndrome with people who experienced natural disasters (16). In a study conducted in the Ebola epidemic, it was reported that people with Ebola infection had troubled thoughts about death and were at risk for post-traumatic stress disorder (17).

Another study examined individuals with Severe Acute Respiratory Syndrome 30 months after recovery. According to the results of this study, people still had post-traumatic stress disorder. In addition, the severity of post-traumatic stress disorder was found to be associated with the duration of quarantine in the study (18). In our study, factors affecting the severity of post-traumatic stress disorder included being a woman, not having a regular job, living alone and the presence of chronic disease. Similar to our study, in a previous study, post-traumatic stress disorder was found with a higher rate in women (19). Earlier reports have shown that women react differently to stressful events compared to men. Women can react more intense and suddenly under these conditions (20). In addition, estrogen, which is less present in men than women, may be a factor that greatly influences women's responses to trauma and PTSD symptoms (21).

The answers given by each individual after serious traumas are different from each other. In other words, while some people who experience the same trauma develop post-traumatic stress disorder, others do not. This situation is associated with the resilience of the persons. In the studies, a lot of attention was paid to the issue of which people were more resistant (22). If a person has not experienced post-traumatic stress disorder despite being infected with COVID-19 and undergoing a quarantine period, factors that ensure the person's resilience should be examined. Therefore, our study aimed to examine the factors affecting the presence of post-traumatic stress disorder in people with COVID-19 infection.

## **Conclusion**

In this stressful period, early-stage psychological services and crisis interventions are needed in all societies to reduce PTSD, alleviate individuals' existing acute stress responses, prevent immunosuppression, and reduce the prevalence of PTSD. When a public health problem arises, the local government should promptly provide relevant psychological interventions to help individuals deal with negative emotional experiences. Because early psychological

interventions can help reduce the prevalence of PTSD (23). In addition, during the COVID-19 outbreak, relevant organizations should encourage individuals to find ways to cope with the disease, improve their learning abilities in difficult situations, and seek help that can protect themselves from PTSD (24).

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